Department of Transportation
Research and Special Programs
Administration

Department of Homeland Security
Transportation Security Administration

[Docket No. RSPA-2004-18730]

Re: Hazardous Materials: Enhancing Rail Transportation Security for Toxic Inhalation Hazard Materials Comments - Section D. Tank Car Integrity

Technology is currently commercially available that will strengthen rail tank cars used for transporting, storing and processing toxic inhalation hazard (TIH) materials and will enhance and strengthen rail tank cars to withstand or mitigate the effects of a terrorist attack. The device is easily installed on the new or used rail tank cars and would be applicable to retrofit applications as well as new construction.

There would be no time out of service for the cars. Rail tank cars used to transport TIH materials must be thoroughly inspected and tested every five years to assure that the integrity of the tank car is maintained with no deterioration. Installation of the device at the time of inspection would allow all cars to be completed within a five-year period. There would be no impact of such a program on the transportation and use of TIH materials.

Research and development are not required. The device is fabricated, thoroughly tested and code stamped in accordance with ASME Code Section VIII, Div. 1.

The device is not currently in use in the rail industry.

Currently rail tank cars carrying TIH materials do not have the capability of containing and preventing a release from the car manway, valves or pressure relief device. Existing tank cars do not have adequate protection for the valves in the event of a derailment. Existing cars cannot prevent an accidental release during transport, storage or processing.

Currently, tank cars transporting TIH materials rely on excess flow valves intended to close and stop the release of material from the tank car in the event a tank car valve or fitting is broken or sheared off during transit or in the event piping systems of fixed facilities fail.

The excess flow valve, which consists of a rising ball that is suppose to close when the rate of flow exceeds 15,000 pounds per hour (lb/hr), is located beneath each liquid valve. Excess flow valves have failed to close and stop the release of TIH materials when the material has exceeded the set point of 15,000 lb/hr. This failure was not caused from mechanical defects or corrosion, and nothing was found that would have prevented the valves from closing.

The Federal Railroad Administration (FRA) and the Environmental Protection Agency (EPA) state that:

- Tank car operations are not to rely on tank car excess flow valves to stop leaks.
- Tank car operations are to identify and implement other measures that will stop the uncontrolled release of a product from the tank car in the event of a transfer line failure rather than reliance on excess flow valves.

The device will:

- Resolve the deficiencies and unreliability associated with the excess flow valves currently used on existing cars.
- Strengthen rail tank cars to withstand or mitigate the effects of a terrorist attack.
- Strengthen tank cars to withstand or mitigate the effects of a derailment or collision.
- Prevent accidental releases during transport and storage.
- Prevent access by unauthorized persons to the contents of the car.
- Prevent tampering with valves and other accessories.
- Comply with Article 80 of the Uniform Fire Code.
- Comply with the Toxic Gas Ordinance.
- Comply with the International Fire Code.
- Eliminate need for sealed room with caustic scrubbing system.
- Not enclose workers within toxic gas release.
- Enhance en-route security during transportation, including shipments stored temporarily en route to their destination and storage incidental to movement.
- Prevent accidental toxic gas releases during processing.
- Provide dependable seismic safety during processing.
- Not require backup emergency power to contain a release.
- Provide passive mitigation (requires no mechanical device to contain a release).
- Play a significant role in enhancing security for TIH materials.

- Comply with the most stringent environmental safety regulations at the lowest possible cost.

Fundamental redesign of rail tank cars is unnecessary on existing or new cars as the device is designed for easy installation on new and used tank cars.

This simple secondary containment device installed on tank cars containing TIH will provide the highest level of safety possible at the lowest possible cost.

This device will have little impact on increased transportation cost. It is anticipated to have a life expectancy of not less than forty years.

Most railcars are leased. Lease companies are willing to lease cars over a twenty-year period and amortize the device over the period of the lease.

Many municipal water treatment plants across the country, in the interest of safety and security for both the public and the operators of the plants, are spending in excess of $63,000 to contain a release from a 150-pound chlorine cylinder and spending in excess of $90,000 to contain a release from a single one-ton container.

The device is fabricated in the USA using all American steel. The cost of a single unit, including installation, is (currently) approximately $63,000. This is based on the cost of producing the prototype. It should be noted that mass production of the device is likely to reduce the cost.

The cost benefit of preventing a release from fifty-five or ninety ton rail tank cars as compared to the cost of containing a release from a 150-pound or a one-ton container is extraordinary.

Some facilities that process TIH materials from rail tank cars have been required to comply with the Toxic Gas Ordinance or with Article 80 of the Uniform Fire Code. To comply, they have been forced to construct a room with a scrubbing system at a cost of $5 million to $7 million per site. This new technology will eliminate the huge burden of this expense to construct a room with a scrubber for such facilities.

This device will provide safety and security that far exceed that provided by a room with a scrubber. It will not generate hazardous waste and will remove the dangers associated with the hazardous waste handling and disposal required with caustic scrubbing.

July 13, 2004, Representative Edward J. Markey, Ms. McCarthy of Missouri, Mr. Grijalva, Mr. Case, Mr. Owens, Ms. Lee, Mr. Tierney, Ms. Jackson-Lee of Texas, and Mr. Gonzales introduced Bill H.R. 4824 cited as the "Extremely Hazardous Materials Transportation Security Act of 2004, to direct the Secretary of Homeland Security to issue regulations concerning the shipping of extremely hazardous materials."

The Bill describes this device and requires, ". . . physical security measures for such shipments, such

as the use of passive secondary containment of tanker valves . . .”

This device places no burden on small businesses, small organizations, small government jurisdictions or Indian tribes. This device places no burden on record keeping or reporting. This device is of great value to the quality of the natural and social environment by preventing releases such as those that frequently occur causing evacuations of hundreds of residents, including occupants of assisted living facilities, learning centers, students being sheltered-in-place, and Interstate Highways being shut down to traffic.

An added benefit may be a reduction in the serious potential contingent liability normally associated with the transport of toxic inhalation hazard materials.

For all the above reasons, consideration should be given to improve the safety and security of rail tank cars used for transporting, storing and processing toxic inhalation hazard materials by adding this safety device to all new and used cars.

To see diagrams and photographs of the device, go to www.tgotech.com under “ChlorTanker.”

Respectfully submitted,

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Patent Holder: Secondary Containment Cap Apparatus for Rail Tank Cars, Tank Trucks, Bulk Storage Tanks, and Barges
Patent No: 6,742,550 issued June 1, 2004